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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/771,403	01/26/2001	Robert Hundt	10005458-1	6325

7590 12/29/2003  
HEWLETT-PACKARD COMPANY  
Intellectual Property Administration  
P.O. Box 272400  
Fort Collins, CO 80527-2400

EXAMINER
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ROCHE, TRENTON J

ART UNIT	PAPER NUMBER
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2124

DATE MAILED: 12/29/2003

2

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/771,403

Applicant(s)

HUNDT ET AL.

Examiner

Trent J Roche

Art Unit

2124

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 26 January 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 January 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. §§ 119 and 120**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

1. Claims 1-10 have been examined.

#### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-10 are rejected under 35 U.S.C. 102(b) as being anticipated by Poor Man's Watchpoints by Copperman et al, hereafter referred to as PMW.

#### **Regarding claim 1:**

PMW teaches:

- a method for allowing debugging capability in code instrumentation (“supplying an interface to the instrumentation in the debugger...” on page 37)
- that takes a block of original code to produce a block of instrumented code (“replacing each store and/or load instructions with an inline check or call to a function...” on page 37)
- providing an instrumentation breakpoint in the block of original code (“a call to `_do_watch` is patched into the executable prior to each memory access.” on page 38)
- generating the block of instrumented code (“replacing each store and/or load instructions with an inline check or call to a function...” on page 37)

Art Unit: 2124

- running the block of instrumented code until a debugging breakpoint is reached (“replacing each store and/or load instructions with an inline check or call to a function that gives control to the debugger if the accessed location is being watched...” on page 37)
- performing debugging functions on the block of instrumented code (“On receiving a watchpoint command, the debugger has to add an entry to the watch table...” on page 40)

as claimed.

**Regarding claim 2:**

The rejection of claim 1 is incorporated, and further, PMW teaches replacing a first instruction as claimed (“a call to `_do_watch` is patched into the executable prior to each memory access.” on page 38. The patch replaces the code section before the memory access block of code.)

**Regarding claim 3:**

The rejection of claim 2 is incorporated, and further, PMW teaches a first instruction comprising one or more instructions as claimed (“insert a patch prior to each watchpoint patch target, that is, each store and/or load...” on page 38)

**Regarding claim 4:**

The rejection of claim 2 is incorporated, and further, PMW teaches restoring the first instruction as claimed (“the debugger need not place a breakpoint instruction in the ‘load’ version of `_do_watch` and no context switch to the debugger would be taken for loads.” on page 42)

**Regarding claim 5:**

Art Unit: 2124

The rejection of claim 1 is incorporated, and further PMW teaches providing a debugging breakpoint as claimed ("We allocate one breakpoint structure, wp\_bp, at debugger initialization time..." on page 40)

**Regarding claims 6-10:**

Claims 6-10 are directed to a computer-readable medium embodying instructions for performing the methods of claims 1-5, and are rejected for the reasons set forth in connection with claims 1-5.

***Conclusion***

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.
5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Trent J Roche whose telephone number is (703)305-4627. The examiner can normally be reached on Monday - Friday, 9:00 am - 6:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kakali Chaki can be reached on (703)305-9662. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)305-3900.

Trent J Roche  
Examiner  
Art Unit 2124

TJR



**ANTONY NGUYEN-BA  
PRIMARY EXAMINER**

Application/Control Number: 09/771,403

Art Unit: 2124

Page 5